

AMENDMENTS TO THE CLAIMS

1-36. (Canceled)

37. (Currently Amended) A moving picture stream generating apparatus which generates a stream including a picture including at least a pixel data storage unit for storing pixel data and a supplemental information storage unit for storing first supplemental information and second supplemental information, the first and second supplemental information storage unit being placed before the pixel data ~~storage unit~~, said moving picture stream generating apparatus comprising:

a first coding unit operable to code the first supplemental information in which picture type information of each of pictures included in a random access unit is arranged in decoding order of the pictures, the random access unit including pictures starting with a first I-picture which is a random access point and ending with a picture immediately before a second I-picture which is a random access point different from the random access point corresponding to the first I-picture;

a second coding unit operable to code the second supplemental information in which picture structure information of each of the pictures included in the random access unit is arranged in the decoding order of the pictures; and

a generating unit operable to generate a moving picture stream by storing the coded first and second supplemental information into the supplemental information storage unit in the first I-picture,

wherein the picture type information of the respective pictures includes at least: an I-picture on which intra-coding is performed; a P-picture on which inter-coding is performed with

reference to a picture per block which is a basic unit in coding; a first B-picture on which inter-coding is performed with reference to two pictures per block which is a basic unit in coding, and which can be referred to by a picture; and a second B-picture on which inter-coding is performed with reference to two pictures per block which is a basic unit in coding, and which cannot be referred to by any other pictures, and

~~the picture structure information of the respective pictures includes information indicating whether the picture structure of each picture is: a field structure; a first frame structure for displaying the picture using two display fields at the time of using 3-2 pull down; and a second frame structure for displaying the picture using three display fields by repeatedly displaying the first display field at the time of using 3-2 pull down~~

wherein the picture structure information of the respective pictures includes information indicating whether the picture structure of each picture is a field structure, a first frame structure, or a second frame structure,

wherein the first frame structure is for displaying the picture using two display fields, and wherein the second frame structure is for displaying the picture using three display fields by repeatedly displaying the first display field at the time of using 3-2 pull down.

38. **(Currently Amended)** A moving picture stream generating method for generating a stream including a picture including at least a pixel data storage unit for storing pixel data and a supplemental information storage unit for storing first supplemental information and second supplemental information, the first and second supplemental information storage unit being placed before the pixel data storage unit, said moving picture stream generating method comprising:

a first coding step of coding the first supplemental information in which picture type information of each of pictures included in a random access unit is arranged in decoding order of the pictures, the random access unit including pictures starting with a first I-picture which is a random access point and ending with a picture immediately before a second I-picture which is a random access point different from the random access point corresponding to the first I-picture;

a second coding step of coding the second supplemental information in which picture structure information of each of the pictures included in the random access unit is arranged in the decoding order of the pictures; and

a generating step of generating a moving picture stream by storing the coded first and second supplemental information into the supplemental information storage unit in the first I-picture,

wherein the picture type information of the respective pictures includes at least: an I-picture on which intra-coding is performed; a P-picture on which inter-coding is performed with reference to a picture per block which is a basic unit in coding; a first B-picture on which inter-coding is performed with reference to two pictures per block which is a basic unit in coding, and which can be referred to by a picture; and a second B-picture on which inter-coding is performed with reference to two pictures per block which is a basic unit in coding, and which cannot be referred to by any other pictures, ~~and~~

~~the picture structure information of the respective pictures includes information indicating whether the picture structure of each picture is: a field structure; a first frame structure for displaying the picture using two display fields at the time of using 3-2 pull-down; and a second frame structure for displaying the picture using three display fields by repeatedly displaying the first display field at the time of using 3-2 pull-down~~

wherein the picture structure information of the respective pictures includes information indicating whether the picture structure of each picture is a field structure, a first frame structure, or a second frame structure,

wherein the first frame structure is for displaying the picture using two display fields, and wherein the second frame structure is for displaying the picture using three display fields by repeatedly displaying the first display field at the time of using 3-2 pull down.

39. **(Currently Amended)** A moving picture decoding apparatus which decodes and reproduces a stream including a picture including at least a pixel data storage unit for storing pixel data and a supplemental information storage unit for storing first supplemental information and second supplemental information, the first and second supplemental information ~~storage unit~~ being placed before the pixel data ~~storage unit~~, said moving picture decoding apparatus comprising:

an instruction obtaining unit operable to obtain an instruction instructing a special playback;

an analyzing unit operable to separate the first supplemental information in which picture type information of each of pictures is arranged in decoding order of the pictures and the second supplemental information in which picture structure information of each of the pictures is arranged in the decoding order of the pictures which are included in each of random access units, from the supplemental information storage unit of a first I-picture on a random access unit basis, the random access unit including pictures starting with the first I-picture which is a random access point and ending with a picture immediately before a second I-picture which is a random access point different from the random access point corresponding to the first I-picture;

a reproduction picture identifying unit operable to identify a picture necessary for the special playback among the pictures included in the random access unit, based on the analysis performed by said analyzing unit; and

a decoding unit operable to decode and reproduce the picture identified by said reproduction picture identifying unit,

wherein the picture type information of the respective pictures includes at least: an I-picture on which intra-coding is performed; a P-picture on which inter-coding is performed with reference to a picture per block which is a basic unit in coding; a first B-picture on which inter-coding is performed with reference to two pictures per block which is a basic unit in coding, and which can be referred to by a picture; and a second B-picture on which inter-coding is performed with reference to two pictures per block which is a basic unit in coding, and which cannot be referred to by any other pictures, ~~and~~

~~the picture structure information of the respective pictures includes information indicating whether the picture structure of each picture is: a field structure; a first frame structure for displaying the picture using two display fields at the time of using 3-2 pull down; and a second frame structure for displaying the picture using three display fields by repeatedly displaying the first display field at the time of using 3-2 pull down~~

wherein the picture structure information of the respective pictures includes information indicating whether the picture structure of each picture is a field structure, a first frame structure, or a second frame structure,

wherein the first frame structure is for displaying the picture using two display fields, and wherein the second frame structure is for displaying the picture using three display fields by repeatedly displaying the first display field at the time of using 3-2 pull down.

40. **(Currently Amended)** A moving picture decoding method for decoding and reproducing a stream including a picture including at least a pixel data storage unit for storing pixel data and a supplemental information storage unit for storing first supplemental information and second supplemental information, the first and second supplemental information ~~storage unit~~ being placed before the pixel data ~~storage unit~~, said moving picture decoding method comprising:

an instruction obtaining step of obtaining an instruction instructing a special playback;

an analyzing step of separating the first supplemental information in which picture type information of each of pictures is arranged in decoding order of the pictures and the second supplemental information in which picture structure information of each of the pictures is arranged in the decoding order of the pictures which are included in each of random access units, from the supplemental information storage unit of a first I-picture on a random access unit basis, the random access unit including pictures starting with the first I-picture which is a random access point and ending with a picture immediately before a second I-picture which is a random access point different from the random access point corresponding to the first I-picture;

a reproduction picture identifying step of identifying a picture necessary for the special playback indicated by the instruction obtained in said instruction obtaining step among the pictures included in the random access unit, based on the analysis performed by said analyzing unit; and

a decoding step of decoding and reproducing the picture identified by said reproduction picture identifying unit,

wherein the picture type information of the respective pictures includes at least: an I-picture on which intra-coding is performed; a P-picture on which inter-coding is performed with

reference to a picture per block which is a basic unit in coding; a first B-picture on which inter-coding is performed with reference to two pictures per block which is a basic unit in coding, and which can be referred to by a picture; and a second B-picture on which inter-coding is performed with reference to two pictures per block which is a basic unit in coding, and which cannot be referred to by any other pictures,-and

~~the picture structure information of the respective pictures includes information indicating whether the picture structure of each picture is: a field structure; a first frame structure for displaying the picture using two display fields at the time of using 3-2 pull down; and a second frame structure for displaying the picture using three display fields by repeatedly displaying the first display field at the time of using 3-2 pull down~~

wherein the picture structure information of the respective pictures includes information indicating whether the picture structure of each picture is a field structure, a first frame structure, or a second frame structure,

wherein the first frame structure is for displaying the picture using two display fields, and wherein the second frame structure is for displaying the picture using three display fields by repeatedly displaying the first display field at the time of using 3-2 pull down.

41. **(Currently Amended)** A method for recording, onto a computer-readable recording medium, a stream including a picture including at least a pixel data storage unit for storing pixel data and a supplemental information storage unit for storing first supplemental information and second supplemental information, the first and second supplemental information storage unit being placed before the pixel data storage unit, said method comprising:

a first coding step of coding the first supplemental information in which picture type information of each of pictures included in a random access unit is arranged in decoding order of the pictures, the random access unit including pictures starting with a first I-picture which is a random access point and ending with a picture immediately before a second I-picture which is a random access point different from the random access point corresponding to the first I-picture;

a second coding step of coding the second supplemental information in which picture structure information of each of the pictures included in the random access unit is arranged in the decoding order of the pictures; and

a generating step of generating a moving picture stream by storing the coded first and second supplemental information into the supplemental information storage unit in the first I-picture; and

a recording step of recording the moving picture stream onto the recording medium, wherein the picture type information of the respective pictures includes at least: an I-picture on which intra-coding is performed; a P-picture on which inter-coding is performed with reference to a picture per block which is a basic unit in coding; a first B-picture on which inter-coding is performed with reference to two pictures per block which is a basic unit in coding, and which can be referred to by a picture; and a second B-picture on which inter-coding is performed with reference to two pictures per block which is a basic unit in coding, and which cannot be referred to by any other pictures, ~~and~~

~~the picture structure information of the respective pictures includes information indicating whether the picture structure of each picture is: a field structure; a first frame structure for displaying the picture using two display fields at the time of using 3-2 pull-down; and a~~

second frame structure for displaying the picture using three display fields by repeatedly displaying the first display field at the time of using 3-2 pull down

wherein the picture structure information of the respective pictures includes information indicating whether the picture structure of each picture is a field structure, a first frame structure, or a second frame structure,

wherein the first frame structure is for displaying the picture using two display fields, and wherein the second frame structure is for displaying the picture using three display fields by repeatedly displaying the first display field at the time of using 3-2 pull down,

42. **(Currently Amended)** A moving picture decoding system comprising a computer-readable recording medium on which a stream is recorded and a moving picture decoding apparatus which reads and decodes the stream, the stream including a picture including at least a pixel data storage unit for storing pixel data and a supplemental information storage unit for storing first supplemental information and second supplemental information, the first and second supplemental information storage unit being placed before the pixel data storage unit,

wherein in the stream recorded on the recording medium,
the first supplemental information in which picture type information of each of pictures is arranged in decoding order of the pictures and the second supplemental information in which picture structure information of each of the pictures is arranged in the decoding order of the pictures which are included in a random access unit are stored in a supplementary information storage unit of a first I-picture, the random access unit including pictures starting with the first I-picture which is a random access point and ending with a picture immediately

before a second I-picture which is a random access point different from the random access point corresponding to the first I-picture,

the picture type information of the respective pictures includes at least: an I-picture on which intra-coding is performed; a P-picture on which inter-coding is performed with reference to a picture per block which is a basic unit in coding; a first B-picture on which inter-coding is performed with reference to two pictures per block which is a basic unit in coding, and which can be referred to by a picture; and a second B-picture on which inter-coding is performed with reference to two pictures per block which is a basic unit in coding, and which cannot be referred to by any other pictures, and

~~the picture structure information of the respective pictures includes information indicating whether the picture structure of each picture is: a field structure; a first frame structure for displaying the picture using two display fields at the time of using 3-2 pull down; and a second frame structure for displaying the picture using three display fields by repeatedly displaying the first display field at the time of using 3-2 pull down, and~~

the picture structure information of the respective pictures includes information indicating whether the picture structure of each picture is a field structure, a first frame structure, or a second frame structure,

the first frame structure is for displaying the picture using two display fields, and

the second frame structure is for displaying the picture using three display fields by repeatedly displaying the first display field at the time of using 3-2 pull down, and

wherein said moving picture decoding apparatus which reads the stream from said recording medium and decodes the stream includes:

an instruction obtaining unit operable to obtain an instruction instructing a special playback;

an analyzing unit operable to separate the first supplemental information and the second supplemental information, from the supplemental information storage unit of the first I-picture on a random access unit basis;

a reproduction picture identifying unit operable to identify a picture necessary for the special playback among the pictures included in the random access unit, based on the analysis performed by said analyzing unit; and

a decoding unit operable to decode and reproduce the picture identified by said reproduction picture identifying unit.

43. (New) A non-transitory recording medium having a program stored thereon for causing a computer to perform a method for generating a stream including a picture including at least a pixel data storage unit for storing pixel data and a supplemental information storage unit for storing first supplemental information and second supplemental information, the first and second supplemental information being placed before the pixel data, the method comprising:

a first coding step of coding the first supplemental information in which picture type information of each of pictures included in a random access unit is arranged in decoding order of the pictures, the random access unit including pictures starting with a first I-picture which is a random access point and ending with a picture immediately before a second I-picture which is a random access point different from the random access point corresponding to the first I-picture;

a second coding step of coding the second supplemental information in which picture structure information of each of the pictures included in the random access unit is arranged in the decoding order of the pictures; and

a generating step of generating a moving picture stream by storing the coded first and second supplemental information into the supplemental information storage unit in the first I-picture,

wherein the picture type information of the respective pictures includes at least: an I-picture on which intra-coding is performed; a P-picture on which inter-coding is performed with reference to a picture per block which is a basic unit in coding; a first B-picture on which inter-coding is performed with reference to two pictures per block which is a basic unit in coding, and which can be referred to by a picture; and a second B-picture on which inter-coding is performed with reference to two pictures per block which is a basic unit in coding, and which cannot be referred to by any other pictures,

wherein the picture structure information of the respective pictures includes information indicating whether the picture structure of each picture is a field structure, a first frame structure, or a second frame structure,

wherein the first frame structure is for displaying the picture using two display fields, and

wherein the second frame structure is for displaying the picture using three display fields by repeatedly displaying the first display field at the time of using 3-2 pull down.